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Patent
Case No.: 59368US010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Radmer, Matt R

Patent No.: 7939526 Application No.: 10/596117

Dated: 10-MAY-2011 Confirmation No. 2301

Title: SULFONE SUBSTITUTED IMIDAZO RING ETHERS

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 CFR § 1.322 AND 1.323

Commissioner for Patents
Office of Publication
Attn: Certificate of Correction Branch
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

I hereby certify that this correspondence is being:

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August 18, 2011 /Chris Johnson/
Date Signed by: Chris Johnson

Dear Sir:

It is respectfully requested that a Certificate of Correction be issued in connection with the above-identified patent. The required text is submitted on the attached form.

The errors are attributable to both the Applicant(s) and the Patent and Trademark Office.

Fees

- Any required fee will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.20(a) which may be required to Deposit Account No. 13-3723.
 - Please charge any fees under 37 CFR §§ 1.20(a), 1.16 and 1.17 which may be required to Deposit Account No. 13-3723.
 - Please charge any additional fees associated with the prosecution of this application to Deposit Account No. 13-3723. This authorization includes the fee for any necessary extension of time under 37 CFR § 1.136(a). To the extent any such extension should become necessary, it is hereby requested.
 - Please credit any overpayment to the same deposit account.

Respectfully submitted,

August 18, 2011

Date

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

By: _____ / Stephen L. Crooks /

Stephen L. Crooks, Reg. No.: 62,218
Telephone No.: 651-737-9138

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 6

PATENT NO.: 7939526
DATED: 10-MAY-2011
FIRST NAMED INVENTOR: Radmer, Matt R

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

List of References

- **Page 1, Col. 2 (Other Publications), Lines 4-6** - After "1983." delete "Brennan et al., "Automated Bioassay of Interferons in Micro-test Plates.", Biotechniques, Jun./Jul., 78, 1983." and insert the same on First Page, Col. 2, Line 5, as a new entry.
- **Page 1, Col. 2(Other Publications), Line 4** - Delete "at al." and insert - - et al. - -, therefor.
- **Page 2, Col. 1(Other Publications), Line 4** - Delete "Rice et al." and insert - - Coleman, et al. - -, therefor.

Specification

- **Page 7, Col. 5, Line 7** - Delete "-(O)₂-;" and insert - -S(O)₂-; - -, therefor.
- **Page 12, Col. 7, Line 63** - Delete "-(O)₂-;" and insert - -S(O)₂-; - -, therefor.
- **Page 21, Col. 13, Line 42** - Delete "alynyl," and insert - - alkynyl, - , therefor.
- **Page 33, Col. 21, Line 15** - Delete "-(O)₂-;" and insert - -S(O)₂-; - -, therefor.]
- **Page 40, Col. 25, Line 8** - Before "alkoxy," delete "to".
- **Page 46, Col. 29, Line 9** - Delete "allyl," and insert - - alkyl, - -, therefor.
- **Page 47, Col. 29, Line 41** - Delete "-(O)₂-;" and insert - -S(O)₂-; - -, therefor.
- **Page 47, Col. 29, Line 62** - Delete "C₁₋₁₀" and insert - - C₄₋₁₀ - -, therefor.

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PATENT NO. 7939526

**OFFICE OF INTELLECTUAL PROPERTY COUNSEL
3M INNOVATIVE PROPERTIES COMPANY
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Page 2 of 6

PATENT NO.: 7939526
DATED: 10-MAY-2011
FIRST NAMED INVENTOR: Radmer, Matt R

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Specification Cont'd

- **Page 48, Col. 30, Line 13** - Below "consisting of:" insert - - -(O)-; - -.
- **Page 50, Col. 31, Line 21** - Delete "substitutent." and insert - - substituent. - -, therefor.
- **Page 56, Col. 35, Line 67** - After "of" insert - - -(O)-, - -.
- **Page 57, Col. 36, Line 67** - Delete "oxo.-" and insert - - oxo. - -, therefor.
- **Page 58, Col. 37, Line 39** - After "Ia," insert - - II, - -.
- **Page 60, Col. 38, Line 55** - Delete "VI." and insert - - VIII. - -, therefor.
- **Page 61, Col. 39, Line 8** - Delete "L" and insert - - I, - -, therefor.
- **Page 61, Col. 39-40, Lines 16-67** - See Error Below IPPF(Three 3M errors reported alongwith, Marked in red.)
- **Page 62, Col. 41, Line 1** - Delete "4 amines" and insert - - 4-amines - -, therefor.
- **Page 64, Col. 42, Line 63** - Delete "substitutents." and insert - - substituents. - -, therefor.
- **Page 66, Col. 44, Line 11** - Delete "hydroxpropoxy" and insert - - hydroxypropoxy - -, therefor.
- **Page 66, Col. 44, Line 29** - Delete "XXI." and insert - - XXII. - -, therefor.
- **Page 67, Col. 44, Line 48** - Delete "XXV" and insert - - XXIV - -, therefor.

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PATENT NO.: 7939526
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Specification Cont'd

- Page 71, Col. 51, Line 10 - Delete "VII" and insert - - I - -, therefor.
- Page 75, Col. 55, Line 32 - Delete "substitutent." and insert - - substituent. - -, th Delete "papillomavirises," and insert - - papillomaviruses, - -, therefor.
- Page 76, Col. 55, Line 58 - Delete "myelogeous" and insert - - myelogenous - -, therefor.
- Page 76, Col. 55, Line 67 - Delete "greta;" and insert - - areata; - -, therefor.
- Page 77, Col. 56, Line 18 - Delete "hemophilus" and insert - - haemophilus - -, therefor.
- Page 82, Col. 59, Line 39 - Delete "(72 µL)." and insert - - (72 mL). - -, therefor.
- Page 82, Col. 59, Lines 61 - Delete "(50 ml)," and insert - - (50 mL), - -, therefor.
- Page 84, Col. 61, Line 8 - Delete "S. 0.25" and insert - - S.0.25 - -, therefor.
- Page 87, Col. 63, Line 3 - Delete "S. 0.25" and insert - - S.0.25 - -, therefor.
- Page 91, Col. 66, Line 4 - Delete "60%" and insert - - ~60% - -, therefor.
- Page 95, Col. 68, Line 13 - Delete "(M+" and insert - - (M+H)⁺; - -, therefor.
- Page 99, Col. 70, Line 56 - Delete "(M+" and insert - - (M+H)⁺; - -, therefor.

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Page 4 of 6

PATENT NO.: 7939526
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Specification Cont'd

- **Page 103, Col. 73, Line 34** - After "13.39" insert - - . - -.
- **Page 106, Col. 75, Lines 28-35** - Delete "mp 150.0-151.0° C. ^1H NMR (300 MHz, DMSO) δ 8.72 (d, $J=4.7$ Hz, 1H), 8.13 (t, $J=7.8$ Hz, 1H), 7.97-8.01 (m, 2H), 7.71-7.73 (m, 1H), 7.58 (d, $J=7.3$ Hz, 1H), 7.37 (t, $J=8.2$ Hz, 1H), 7.17 (t, $J=7.0$ Hz, 1H), 6.38 (s, 2H), 4.67 (t, $J=5.2$ Hz, 2H), 3.76 (t, $J=5.2$ Hz, 2H), 3.28-3.38 (m, 4H), 2.86 (t, $J=7.6$ Hz, 2H), 1.82 (apparent heptet, $J=7.6$, 7.4, 7.3 Hz, 2H), 1.69-1.71 (m, 2H), 0.99 (t, $J=7.4$ Hz, 3H); MS (APCI) m/z 454 ($M+\text{H}$) $^+$; Anal. calcd for $\text{C}_{23}\text{H}_{27}\text{N}_5\text{O}_3\text{S}$: C, 60.91; H, 6.00; N, 15.44. Found: C, 60.59; H, 5.91; N, 15.32." and insert the same on Col. 75, Line 27, after "powder," as the continuation of the same paragraph.
- **Page 106, Col. 75, Line 61** - Delete "3.5g" and insert - - ~3.5g - -, therefor.
- **Page 107, Col. 76, Line 9** - Delete "[3-(ethylsulfinyl)" and insert - - [3-(Methylsulfinyl) - -, therefor.
- **Page 107, Col. 76, Line 43** - Delete "pentet," and insert - - (pentet, - -, therefor.
- **Page 118, Col. 83, Line 46** - Delete "($M+\text{H}$);" and insert - - ($M+\text{H}$) $^+$; - -, therefor.
- **Page 120, Col. 84, Lines 34** - Delete "quinolin amine" and insert - - quinolin-4-amine - -, therefor.
- **Page 131, Col. 91, Line 63** - Delete "3.60," and insert - - 3.60 - -, therefor.
- **Page 131, Col. 91, Line 67** - Delete "($M+\text{H}$);" and insert - - ($M+\text{H}$) $^+$; - -, therefor.

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Page 5 of 6

PATENT NO.: 7939526
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Specification Cont'd

- Page 132, Col. 92, Line 29 - After "Russ." delete "i".
- Page 145, Col. 100, Line 23 - Delete "41~48" and insert - - 41-48 - -, therefor.
- Page 146, Col. 101, Line 2 - Delete "Examples" and insert - -The examples - -, therefor.
- Page 146, Col. 101, Lines 56-60 - Delete " methyethyl " and insert - - methylethyl - -, therefor.
- Page 146, Col. 102, Lines 23-28 - Delete " methyethyl " and insert - - methylethyl - -, therefor.
- Page 146, Col. 102, Lines 42-47 - Delete " methyethyl " and insert - - methylethyl - -, therefor.
- Page 146, Col. 102, Lines 62-66 - Delete " methyethyl " and insert - - methylethyl - -, therefor.

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Page 6 of 6

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FIRST NAMED INVENTOR: Radmer, Matt R

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Error No. 19

Delete "In step (4b) an N-oxide of Formula IX is aminated to provide a 1H-imidazo[4,5-c]quinolin-4-amine of Formula IIa-1, which is a subgenus of Formulas I, Ia, II, IIa, and IIb. The reaction is carried out in two parts. In part (i) a compound of Formula IX is reacted with an acylating agent. Suitable acylating agents include alkyl- or arylsulfonyl chlorides (e.g., benzenesulfonyl chloride). In part (ii) the product of part (i) is reacted with an excess of an aminating agent. Suitable aminating agents include ammonia (e.g. in the form of ammonium hydroxide) and ammonium salts (e.g., ammonium carenesulfonyl chloride). In part (ii) the product of part (i) is reacted with an excess of an aminating agent. Suitable aminating agents include ammonia (e.g. in the form of ammonium hydroxide) and ammonium salts (e.g., ammonium carbonate, ammonium bicarbonate, ammonium phosphate). The reaction can be carried out by dissolving a compound of Formula IX in a suitable solvent such as dichloromethane or chloroform, adding ammonium hydroxide to the solution, and then adding p-toluenesulfonyl chloride. The product or a pharmaceutically acceptable salt thereof can be isolated using conventional methods." and

insert - - In step (4b) an N-oxide of Formula IX is aminated to provide a 1H-imidazo[4,5-c]quinolin-4-amine of Formula IIa-1, which is a subgenus of Formulas I, Ia, II, IIa, and IIb. The reaction is carried out in two parts. In part (i) a compound of Formula IX is reacted with an acylating agent. Suitable acylating agents include alkyl- or arylsulfonyl chlorides (e.g., benzenesulfonyl chloride, methanesulfonyl chloride, or p-toluenesulfonyl chloride). In part (ii) the product of part (i) is reacted with an excess of an aminating agent. Suitable aminating agents include ammonia (e.g. in the form of ammonium hydroxide) and ammonium salts (e.g., ammonium carbonate, ammonium bicarbonate, ammonium phosphate). The reaction can be carried out by dissolving a compound of Formula IX in a suitable solvent such as dichloromethane or chloroform, adding ammonium hydroxide to the solution, and then adding p-toluenesulfonyl chloride. The product or a pharmaceutically acceptable salt thereof can be isolated using conventional methods. -, therefor.

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